SOFTWARE RELEASE NOTICE

SYSTEM: Automated Tracking Station (ATS) **RELEASE: 2.1**

DATE: February 25, 1999

MODIFICATION DESCRIPTION:

All work was requested through Request-for-Support (RFS) #99-001 and 99-004. Copies of these requests can be obtained from NASA Code 584/CSC task leader Susannah A. Warner (757-824-2496).

This software release is an upgrade to the existing ATS. It repairs several problems reported in testing at one or all ground stations and provides a few enhancements for operator capabilities. These include:

StationStatusDisplay.exe:

(1) Fix:
Was not reading new status packet format correctly. Station name (for ID purposes) and number-of-bytes in the packet were added for broadcast in 11/98, but not for the display application. (RFS 99-001)

(2) Fix:
Was not creating a thread to listen for the incoming status. (RFS 99-001)

StationStatusBroadcaster.exe:

(1) Fix:
Changes to resolve network communication failures. (RFS 99-001)

MonitorAndControl.exe:

(1) Enhancement:
All operations have verbally requested the need to allow automation testing without need for the S-A SCC on-line. This allows operations, and hardware and software engineers, to run the equipment profiles through ATS and not worry if the SCC is up and running. This is a predecessor to the requirement for handling scheduled pre-pass tests. (RFS 99-001)

(2) Enhancement:
The information format contained in the operational schedule window has been changed to display tape recorder/X-band requests on separate lines from the tracking task. The S-A antenna configuration number and support initialization time have also been added to this window. This information is needed by operations for a quick look at what things are upcoming in the schedule. (added to RFS 99-001)

(3) Enhancement:
A simple tape recorder scheduling algorithm has been applied that will prohibit recording events to be scheduling on tapes already too full; the job, instead, is passed off to another available one. We are unfamiliar with the tape-changing method at other ground stations, but MGS has strongly requested ATS take this responsibility. We anticipate other ground stations will address this requirement, also. (added to RFS 99-001)

Scheduler.exe:

(1) Enhancement:
Some necessary changes that go along with M&C (1 above): Changes to allow ATS testing without the S-A antenna. This makes operational equipment testing easy in case the antenna is down or not needed. Also, good for trouble-shooting software or equipment problems quickly. May be used as beginning of pre-pass software. (RFS 99-001)

PassResultsCompiler.exe:

(1) Fix:
Reporting on bit synchronization acquisition statistics was wrong for multiple X-band events (as in case of Landsat7). Tested at MGS with some RadarSat supports. (added to RFS 99-001)

(2) Fix: (CRITICAL)
Pass results file format for Ampex tape addresses is too small; increased from 6 to 10 characters. This must be in order to provide post-pass summaries from MGS and free operations here from that tedious manual task. (added to RFS 99-001)

(3) Enhancement:
More information from S-A binary tapelog is now being saved in ASCII tapelog summary on Master. This added information includes length of recording (seconds), tape address consumption (stop-start address), and an S-A data quality code number. This information along with S-A tape recorder status is used when Master schedules tape recorders for next upcoming pass. (added to RFS 99-001)

(4) Fix:
TDF fixes, including uplink frequency, doppler flag and LS7 TDF file naming problems. (RFS 99-001)

11mInterface.exe:

(1) Enhancement:
Added source code to write AMPEX and Sony (WFF) recorder status in order to determine tape recorder scheduling/conflict by Master; i.e don't want to request recording on tape unit #1 if tape inserted is full. We anticipate the stations will want this capability. (added to RFS 99-001)

(2) Fix:
Reporting tape recorder status to Master high-level status window was wrong. Tape recorder % used was not being parsed from packet correctly. This caused erroneous tape usage % to be reported. (added to RFS 99-001)

ProgTMProcAvtec1001.exe:

(1) Enhancement:
Provides for more reliable selection of desktop in creating and editing PTP configuration files. (RFS 99-004)

(2) Enhancement:
Includes version 1.4 of Avtec PTP release. (RFS 99-001)

RecorderMetrumBVLDS.exe

(1) Fix:
Provides for proper save of Metrum configuration files. (added to RFS 99-001)

GRM.exe

(1) Enhancement:
Provides for logs to rollover so they do not grow too large. (added to RFS 99-001)

(2) Fix:
Added a real time-out value (Infinite) for commanding to prevent possible lock-up. (added to RFS 99-001)

(3) Enhancement:
Removed excess comments from code to delete operations logs from the Node after successful transfer to master. (added to RFS 99-001)

Installation batch routines

(1) Fix:
Modify to not overwrite existing *.status files and to remove read-only attributes from files in Master\Station and Node\Station directories. (added to RFS 99-001)

Other

(1) Repairs some automatic connection problems. Non-automated devices, like receivers and combiners, are allowed for connections. Multiple connections to a single device from multiple other devices, however, are not accommodated in the ATS design. (RFS 99-001)
(2) Updates schedule window and things-to-do-list file after every support. (RFS 99-001)
(3) Adds TR configuration code to operational schedule window. (RFS 99-001)

(4) Adds capability to delete an upcoming, scheduled event during an on-going support. (RFS 99-001)
(5) Fixes selectability feature of "NOEPHEMERIS" option in user-scheduled insert event window. (RFS 99-001)
(6) Automatically re-starts the 11mInterface.exe application when 11meter SCC has stopped and re-started. (RFS 99-001)

FILES AFFECTED:

Several major header files and libraries included in many of the Master and GUI processes required a re-build of all affected projects. Files affected Windows NT applications (*.exe), dynamic link libraries (*.dll) and text files (*.txt) with version change information.

One additional file, *c:\Master\Station\NonAutomatedResources.dat,* is added in order to accommodate connections between non-automated devices. On the nodes, this file is located at *c:\Node\Station\NonAutomatedResources.dat*

One additional file, *c:\WINNT\system32\drivers\etc\LMHOSTS*, is updated in order to accommodate the selection of desktops from PTPs.

Several additional files are needed to 11 meter antenna fixes and enhancements. All these files are contained in the same folder/directory: *c:\Master\11MeterTapes.* The files are *RecorderProperties.txt, RecorderStatusRate.txt* and *WotisSatelliteAlias.txt.*

No device status logging text files or profiles are affected. See **Attachment 1: ATS 2.1 FILES AND FOLDERS**.

HARDWARE REQUIREMENTS:

- Minimum Pentium-200 MHz for Master and Nodes.
- Minimum 64 megabytes RAM
- Windows NT 4.0
- Devices connected to Node PCs via RS-232 port (and, in some cases an IEEE converter) on a Digibox. A Hewlett-Packard workstation (HP-UX 10.2) functions as an 11meter antenna control console.

VALIDATION PROCEDURES:

The ATS software team has been represented at McMurdo Ground Station (MGS) and has conducted testing and validatation of the changes included in this release. The changes have also been tested by ATS software personnel in the building N-161 lab.

KNOWN BUGS OR LIMITATIONS:

Changes to accommodate the GDP –911 automation, GDP-783 saved settings and General Resource Manager (GRM) heartbeat status are not covered in this release.

INSTALLATION PROCEDURE:

Installation of this release will be conducted with a remote copy of the files (see **Files Affected** above) to the Svalbard Ground Station (SGS). This application requires a remote destination Master/Node to be prescribed as a connected network drive. The remote installation may require a maximum of four hours. Installation of the software to the Alaska Ground Station (AGS) and the Wallops Ground Station (WGS) will follow during the week of February 22-26, 1999 after additional validation through operational testing at SGS.

DOCUMENTATION AFFECTED:

The "Automated Tracking Station User's Manual" is available on the internet at
http://www.wff.nasa.gov/~code584/awots.html

COMMENTS:

Points of contact for ATS release 2.1 are David L. Davis/NASA (757-824-1444) and
Jeffrey L. Dorman/CSC (757-824-2300).

APPROVAL:

The software modifications described in this release notice has been validated and accepted.

_____ _____
NASA EPGS Project Manager Date

_____ _____
NASA AWOTS/WGS Project Manager Date

SOFTWARE RELEASED:

The software modifications described in this release notice has been completed and released to ground station operations.

_____ _____
System Manager Date

_____ _____
NASA Program Monitor Date

ATTACHMENT 1

ATS 2.1 FILES AND FOLDERS

FILES ON ALL MASTERS:

Directory of C:\Master

11mInterface.exe
11mInterface.txt
BitSynchronizerDecom7715.exe
BitSynchronizerDecom7715.txt
DemodulatorAydin329A.exe
DemodulatorAydin329A.txt
FilterKrohnhite3905B.exe
FilterKrohnhite3905B.txt
FrameSynchronizerGDP225D.exe
FrameSynchronizerGDP225D.txt
Grm.exe
Grm.txt
ManualNotification.exe
MasterPassword.exe
MonitorAndControl.exe
MonitorAndControl.txt
MatrixHPE1366A.exe
MatrixHPE1366A.txt
MatrixMSC10693.exe
MatrixMSC10693.txt
MatrixOptraxSS100B.exe
MatrixOptraxSS100B.txt
ModulatorGDP783M.exe
ModulatorGDP783M.txt
PCMSimulatorGDP233.exe
PCMSimulatorGDP233.txt
ProgTMProcAvtec1001.exe
ProgTMProcAvtec1001.txt
RecorderMetrumBVLDS.exe
RecorderMetrumBVLDS.txt
PassResultsCompiler.exe
PassResultsCompiler.txt
SAFSHeartbeat.exe
SAFSHeartbeat.txt
Scheduler.exe
Scheduler.txt
ShippingReport.exe
StationAssetsEditor.exe
StationAssetsEditor.txt
StatusClientRegister.exe
StationStatusBroadcaster.exe
StationStatusBroadcaster.txt
StationStatusDisplay.exe
SynthesizerHP3325B.exe
SynthesizerHP3325B.txt
WOTISInterface.exe
WOTISInterface.txt
WFFTDF.exe
WFFTDF.txt

Directory of C:\Master\Station

NonAutomatedResources.dat

Directory of C:\WINNT\system32\drivers\etc

LMHOSTS

Directory of C:\Master\11MeterTapes

RecorderProperties.txt
RecorderStatusRate.txt
WotisSatelliteAlias.txt

FILES ON ALL NODES:
Directory of C:\Node

BitSynchronizerDecom7715.exe
BitSynchronizerDecom7715.txt
DemodulatorAydin329A.exe
DemodulatorAydin329A.txt
FilterKrohnhite3905B.exe
FilterKrohnhite3905B.txt
FrameSynchronizerGDP225D.exe
FrameSynchronizerGDP225D.txt
MatrixHPE1366A.exe
MatrixHPE1366A.txt
MatrixMSC10693.exe
MatrixMSC10693.txt
MatrixOptraxSS100B.exe
MatrixOptraxSS100B.txt
ModulatorGDP783M.exe
ModulatorGDP783M.txt
PCMSimulatorGDP233.exe
PCMSimulatorGDP233.txt
ProgTMProcAvtec1001.exe
ProgTMProcAvtec1001.txt
RecorderMetrumBVLDS.exe
RecorderMetrumBVLDS.txt
StationStatusDisplay.exe
SynthesizerHP3325B.exe
SynthesizerHP3325B.txt
WFFTDF.exe
WFFTDF.txt

Directory of C:\Node\Station

NonAutomatedResources.dat

Directory of C:\WINNT\system32\drivers\etc

LMHOSTS

FILES ON BOTH MASTERS AND NODES:

Directory of C:\WFF

Av_PTP.dll
Av_PTPsavev133.dll
BitSync.dll
BSyncDecom7715.dll
DemodAydin329A.dll
Demodulator.dll
Filter.dll
FilterKrohnhite3905B.dll
FrameSync.dll
FSyncGdp225d.dll
Grm.exe
GRMMonitor.exe
GRMPorts.dll
GRMRscController.dll
GRMRscManager.dll
MatHPE1366A.dll
MatMSC10693.dll
MatOptraxSS100B.dll
MatOptraxSS3003S.dll
Matrix.dll
ModGDP783M.dll
Modulator.dll
OpTrackingStation.dll
OpTsAvtec1001.dll
OpTsAydin329A.dll
OpTsDecom7715.dll
OpTsGDP225D.dll
OpTsGDP233.dll
OpTsGDP783M.dll
OpTsHP3325B.dll
OpTsHPE1366A.dll
OpTsKrohnhite3905B.dll
OpTsMetrumBVLDS.dll
OpTsMSC10693.dll
OpTsNodeManager.dll
OpTsOptraxSS100B.dll
OpTsWff123.dll
OpTsWffTdf.dll
PCMSimGDP233.dll
PCMSimulator.dll
ProcessManager.dll
ProgTMProc.dll
PTPAvtec1001.dll
RecMetrumBVLDS.dll
Recorder.dll
Synthesizer.dll
SynthHP3325A.dll
SynthHP3325B.dll
TestOpTsNodeMgr.exe
WCom.dll
WDev.dll

WDevOrg.dll
Wff.dll
WffTdf.dll
WGpp.dll